

WHAT IS CLAIMED IS:

1. A hair conditioning shampoo composition comprising:

(a) from about 5% to about 50%, by weight, of a surfactant component selected from the group consisting of anionic surfactants, amphoteric surfactants, or a combination of anionic and amphoteric or zwitterionic surfactants where the amphoteric surfactants are anionic or zwitterionic at the pH of the composition;

(b) from about 0.01% to about 5%, by weight, of a water soluble, organic, cationic polymer hair conditioning agent having a cationic charge density of from about 0.1 meq/gram to about 1.2 meq/gram and wherein the water soluble, organic, cationic polymer hair conditioning agent has a molecular weight greater than 600,000; and

(c) an aqueous carrier;

2. The shampoo composition of Claim 1, wherein the cationic polymer is in a complex coacervate phase in the shampoo composition or forms a complex coacervate upon dilution of the shampoo composition with water.

3. The shampoo composition of Claim 2, wherein the cationic polymer exists in a complex coacervate which forms upon dilution of the shampoo composition with water at a water:shampoo composition weight ratio of about 20:1.

4. The shampoo composition of Claim 1, wherein said cationic charge density is from about 0.1 meq/gram to about 1.2 meq/gram.

5. The shampoo composition of Claim 4, wherein the cationic charge density is from about 0.3 meq/gram to about 0.8 meq/gram.

6. The shampoo composition of Claim 1, wherein the water soluble, organic, cationic polymer hair conditioning agent is a cationic cellulose polymer hair conditioning agent.

7. The shampoo composition of Claim 6, wherein the cationic cellulose polymer hair conditioning agent is Polyquaternium-10 sold under the tradename Polymer LR-30M. TM
8. The shampoo composition of Claim 1, wherein the water soluble, organic, cationic polymer hair conditioning agent has a molecular weight from about 800,000 to about 2 million.
9. The shampoo composition of Claim 8, wherein the water soluble, organic, cationic polymer hair conditioning agent has a molecular weight from about 1 million to about 1.5 million.
10. The shampoo composition of Claim 1, wherein the shampoo composition further comprises an insoluble hair conditioning agent. (circled)
11. The shampoo composition of Claim 10, wherein the insoluble conditioning agent is a dispersed, insoluble, nonvolatile, nonionic silicone hair conditioning agent. ↓
12. The shampoo composition of Claim 1, further comprising a suspending agent. W
13. The shampoo composition of Claim (12), wherein the silicone hair conditioning agent comprises a mixture of polydimethylsiloxane gum and polydimethylsiloxane fluid. NA
14. The shampoo composition of Claim 12, wherein the silicone hair conditioning agent comprises polydimethylsiloxane. (circled)
15. The shampoo composition of Claim 10, comprising from about 0.005% to about 5% of the insoluble hair conditioning agent. ↖
16. The shampoo composition of Claim 10, wherein the insoluble hair conditioning agent is selected from the group consisting of hydrocarbon oils, fatty esters having at least 10 carbon atoms, synthetic esters, silicones, synthetic esters and mixtures thereof. ↓
17. The shampoo composition of Claim 16, wherein the fatty esters are selected from the group consisting of alkyl and alkenyl esters of fatty acids, alkyl and alkenyl esters of fatty

alcohols, polyhydric alcohol esters, dicarboxylic acid esters, tricarboxylic acid esters, and mono-, di-, and tri-glycerides, and mixtures thereof.

18. The shampoo composition of Claim 1, wherein the cationic polymer hair conditioning agent is selected from the group consisting of cationic cellulose, cationic starch, cationic guar, dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate, monoalkylaminoalkyl methacrylate, trialkyl methacryloxyalkyl ammonium salt, trialkyl acryloxyalkyl ammonium salt, diallyl quaternary ammonium salts, pyridinium, imidazolium, quaternized pyrrolidone and mixtures thereof.
19. The shampoo composition of Claim 18, wherein the cationic polymer hair conditioning agent is selected from the group consisting of cationic cellulose, cationic starch, cationic guar, copolymers of 1-vinyl-2-pyrrolidone and 1-vinyl-3-methyl imidazolium salt, copolymers of acrylamide and dimethyl diallylammonium salt, copolymers of 1-vinyl-2-pyrrolidone and dimethylaminoethyl methacrylate, and mixtures thereof.
20. The shampoo composition of Claim 19, wherein the cationic polymer is selected from the group consisting of cationic cellulose, cationic starch, cationic guar and mixtures thereof.
21. The shampoo composition of Claim 1, wherein the cationic polymer conditioning agent is a cationic polysaccharide polymer having a cationic charge density of from about 0.1 meq/gram to about 1.2 meq/gram and wherein the cationic polysaccharide has a molecular weight greater than about 600,000.
22. The shampoo composition of Claim 21 further comprising an insoluble hair conditioning agent.
23. A hair conditioning shampoo composition comprising:
 - (a) from about 5% to about 50%, by weight, of a surfactant component selected from the group consisting of anionic surfactants, amphoteric surfactants, or a combination of anionic and amphoteric or zwitterionic surfactants where the amphoteric surfactants are anionic or zwitterionic at the pH of the composition;

- (b) from about 0.01% to about 5%, by weight, of a water soluble, organic, cationic cellulose polymer hair conditioning agent having a cationic charge density of from about 0.3 meq/gram to about 0.8 meq/gram and wherein the water soluble, organic, cationic cellulose polymer hair conditioning agent has a molecular weight from about 800,000 to about 2 million;
- (c) an insoluble hair conditioning agent wherein the insoluble hair conditioning agent is silicone;
- (d) a suspending agent; and
- (e) an aqueous carrier.
24. The shampoo composition of Claim 1 wherein the surfactant is selected from the group consisting of a combination of anionic and amphoteric surfactants, a combination of anionic and zwitterionic surfactants, and mixtures thereof.
25. The shampoo composition of Claim 12 wherein the suspending agent is ethylene glycol distearate.
26. The shampoo composition of Claim 1, which further comprises an anti-dandruff agent.
27. The shampoo composition of Claim 21, wherein the anti-dandruff agent is selected from the group consisting of pyridinethione salts, selenium sulfide, particulate sulfur, ketoconazole and mixtures thereof.
28. A method for shampooing hair, the method comprising applying to hair an effective amount of the shampoo composition of Claim 1 for cleaning and conditioning the hair and then rinsing the shampoo composition from the hair.
29. A method for shampooing hair, the method comprising applying to hair an effective amount of the shampoo composition of Claim 10 for cleaning and conditioning the hair and then rinsing the composition from the hair.

30. A method for shampooing hair, the method comprising applying to hair an effective amount of the shampoo composition of Claim 21 for cleaning and conditioning the hair and then rinsing the composition from the hair.
31. A method for shampooing hair, the method comprising applying to hair an effective amount of the shampoo composition of Claim 22 for cleaning and conditioning the hair and then rinsing the composition from the hair.
32. A system use of the shampoo composition according to Claim 1 and a conditioner composition wherein the conditioner composition comprises:
- (a) from about 0.1% to about 5.0% by weight, of a monoalkyl trimethyl ammonium salt; and
 - (b) from about 1% to about 15%, by weight, of a fatty alcohol.
33. The system use according to Claim 32 wherein the monoalkyl trimethyl ammonium salt is a monoalkyl trimethyl ammonium chloride having an alkyl group of from 12 to 30 carbon atoms.
34. The system use according to Claim 33 wherein the monoalkyl trimethyl ammonium chloride is behenyl trimethyl ammonium chloride.
35. The system use according to Claim 32 wherein the fatty alcohol has an alkyl group having from 12 to 30 carbon atoms.
36. The system use according to Claim 35 wherein the fatty alcohol has a melting point of higher than 30°C.
37. The system use according to Claim 36 wherein the fatty alcohol is selected from the group consisting of cetyl alcohol, stearyl alcohol, and mixtures thereof.

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No way

Not claimed in comp.